WHAT IS CLAIMED IS:

1.   A computer readable storage medium having instructions stored thereon, the instructions being executable by a computer to provide, to a user, a user interface to a network management system for configuring a network connection between a provider access point and a user access point over a network including a permanent virtual circuit between a switch and the user access point, the medium further comprising:

instructions for providing a user interface that directs the user to select a connection bandwidth for the permanent virtual circuit between the switch and the user access point;

instructions for receiving, through the user interface, a message indicative of a selected bandwidth from the user; and

instructions for remotely provisioning the switch with the network management system in response to receiving the message to throttle the network connection at the switch such that the connection bandwidth between the switch and the user access point is limited by the selected bandwidth.

2.   The medium of claim 1 wherein prior to executing the instructions for remotely provisioning, the connection bandwidth is limited by a previous bandwidth, and wherein the medium further comprises:

instructions for directing the user to select a time duration for the selected connection bandwidth;

instructions for receiving a message indicative of a selected duration; and

instructions for, upon the expiration of the selected duration after remotely provisioning the switch to limit the connection bandwidth by the selected bandwidth, remotely provisioning the switch with the network management system to throttle the network connection at the switch such that the connection bandwidth between the switch and the user access point is limited by the previous bandwidth.

3.   The medium of claim 1 wherein the instructions for providing the user interface include instructions for providing a graphical user interface.

1   4.   The medium of claim 1 further comprising:

2   instructions for authenticating the user prior to remotely provisioning

3   the switch.

1   5.   The medium of claim 1 wherein the network includes a

2   plurality of subnets, each subnet having a corresponding element type and including

3   at least one programmable element of that type, each element type having a

4   corresponding element manager, the medium further comprising:

5   instructions for determining a route made up of links over the network

6   from the provider point to the user point, wherein a network-to-network link

7   connects a pair of adjacent subnets having elements of different types and a network

8   logical link provides a path across a subnet; and

9   instructions for establishing a connection across each subnet on the

10   route by sending a request to the corresponding element manager to program the at

11   least one subnet element in accordance with the network logical link across that

12   subnet, and for establishing a network-to-network connection between adjacent

13   subnets on the route in accordance with the network-to-network link between those

14   adjacent subnets to provide the network connection between the provider point and

15   the user point.

1   6.   The medium of claim 1 wherein at least some of the

2   instructions are in a browser executable format.

1   7.   A method for providing, to a user, a user interface to a

2   network management system for configuring a network connection between a

3   provider access point and a user access point over a network including a permanent

4   virtual circuit between a switch and the user access point, the method further

5   comprising:

6   establishing a graphical user interface at a location of the user;

7   directing the user, through the user interface, to select a connection

8   bandwidth for the permanent virtual circuit between the switch and the user access

9   point;

10   receiving, through the user interface, a message indicative of a

11   selected bandwidth from the user; and

12   remotely provisioning the switch with the network management system

13   in response to receiving the message to throttle the network connection at the switch

14   such that the connection bandwidth between the switch and the user access point is

15   limited by the selected bandwidth.

1   8.   The method of claim 7 wherein prior to remotely provisioning,

2   the connection bandwidth is limited by a previous bandwidth, and wherein the

3   method further comprises:

4   directing the user to select a time duration for the selected connection

5   bandwidth;

6   receiving a message indicative of a selected duration; and

7   upon the expiration of the selected duration after remotely

8   provisioning the switch to limit the connection bandwidth by the selected bandwidth,

9   remotely provisioning the switch with the network management system to throttle the

10   network connection at the switch such that the connection bandwidth between the

11   switch and the user access point is limited by the previous bandwidth.

1   9.   The method of claim 1 further comprising:

2   authenticating the user prior to remotely provisioning the switch.

1   10.   The method of claim 1 wherein the network includes a plurality

2   of subnets, each subnet having a corresponding element type and including at least

3   one programmable element of that type, each element type having a corresponding

4   element manager, the method further comprising:

5   determining a route made up of links over the network from the

6   provider point to the user point, wherein a network-to-network link connects a pair

7   of adjacent subnets having elements of different types and a network logical link

8   provides a path across a subnet; and

9   establishing a connection across each subnet on the route by sending

10   a request to the corresponding element manager to program the at least one subnet

11   element in accordance with the network logical link across that subnet, and for

12   establishing a network-to-network connection between adjacent subnets on the route

13   in accordance with the network-to-network link between those adjacent subnets to

14   provide the network connection between the provider point and the user point.